

# Elements of Research MiSconduct

Michelle LeonArd  
Donna Wrublewski

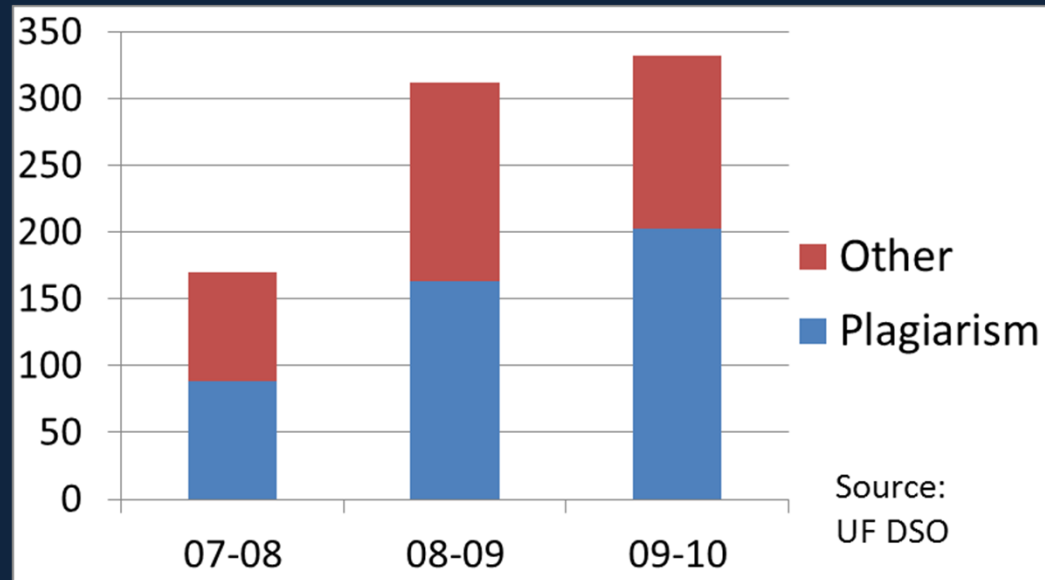
This material is based upon work supported by the  
National Science Foundation under Grant No. 1033002

PatTium Chiranjeevi (2008)

Bengu Sezen (2010)

SAmim Anghaie (2011)

# Incidence



Academic  
Misconduct  
cases at UF  
over the past 3  
years

## Plagiarism:

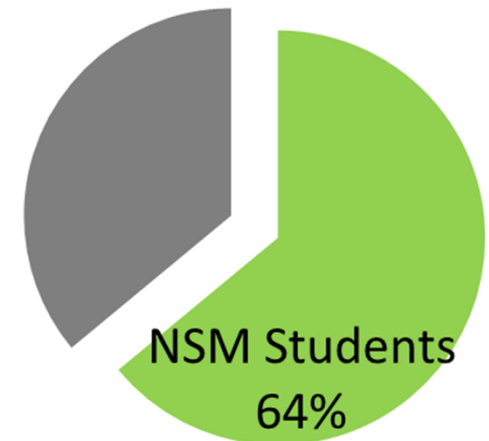
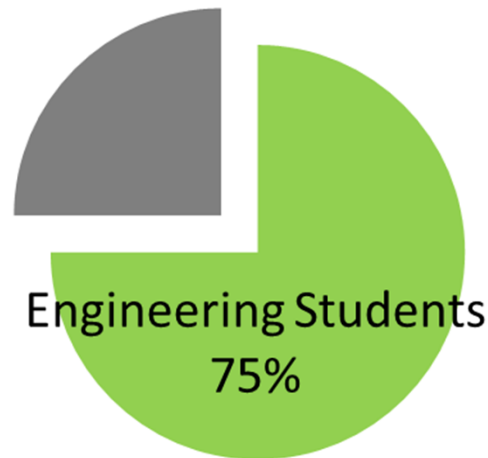
1. Copying without attribution (stealing)
2. Cut-and-paste / patchwriting
3. Misquoting
4. Self-plagiarizing
5. Insufficient paraphrasing

# Precedence

- Turning in copied material as their own work
- Fabricating or falsifying a bibliography
- Turning in work done by someone else.

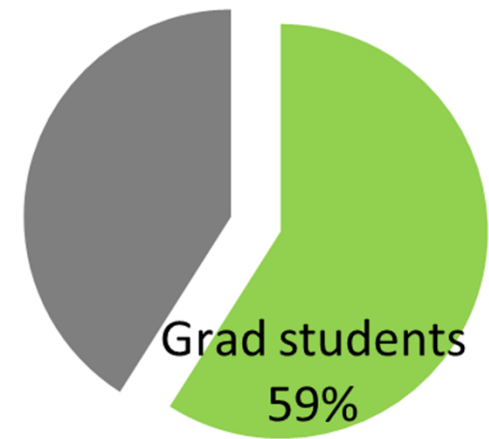
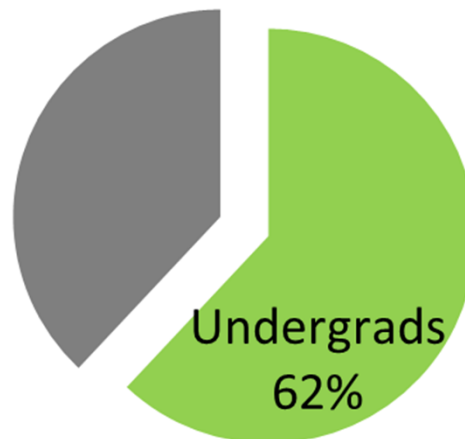
Students who “cut and paste” from either print or electronic sources at least once in the last three years

1997 study of 1,946 students




McCabe, D. L. *Sci. Eng. Ethics* **1997**, 3, 433-445.

2005 study of 63,700 undergrad, 9,250 grad students



McCabe, D. L. *Int. J. Educational Integrity* **2005**, 1.

# Prior Work in UF Libraries

- Faculty demand
    - Previous copyright & fair use instruction by Michelle Leonard
  - Regular part of Library Instruction
  - Remediation tool
- 

This is the president of Jacksonville State University William Meehan's dissertation. Portions highlighted in yellow are copied verbatim from Carl Boening's dissertation.

**What does plagiarism look like?**

William Meehan's dissertation. Highlights are copied verbatim from Carl Boening's dissertation.

[On Vizworld, accessed on 3 June 2009  
<http://www.vizworld.com/2009/06/what-does-plagiarism-look-like/>]

JSU and UA say that this is not plagiarism.  
If this isn't plagiarism...

**What does plagiarism look like?**
- Slide from Plagiarism Workshop, courtesy of Michelle Leonard
- Other librarians found opportunity to develop further, applied for grant from the NSF Ethics Education in Science and Engineering division

# NSF Grant Proposal: “Gaming Against Plagiarism”

- Gaming Against Plagiarism – led by Associate University Librarian Michelle Leonard as PI, team includes librarians and game designers
- Online, self-directed, interactive game providing a role-adapting environment in which Science, Technology, Engineering, and Mathematics (STEM) graduate students learn to recognize and avoid plagiarism
- Awarded full amount (\$298,000) for 2 years
- Team Organization:
  - Content Development
  - Game Development
  - Assessment: (a) content (b) usability

# Goals & Objectives

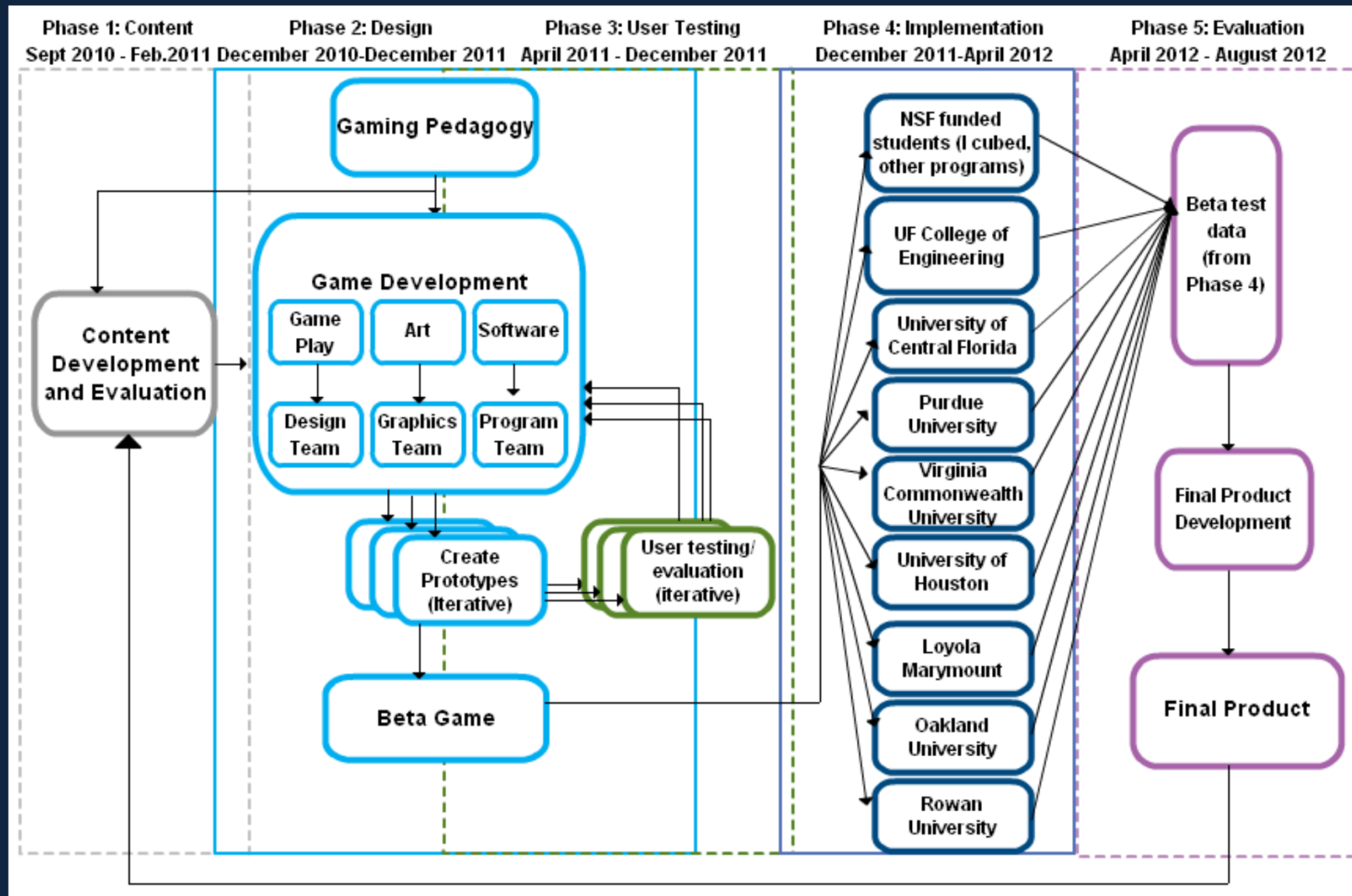
- Influence ethical behavior
- Impact of peer behavior, institutional norms, and cultural practices on plagiarism
- Awareness of falsification & fabrication of data
- Satisfy America COMPETES Act, Section 7009
- “Be collaboratively designed, tested, and evaluated through a multi-disciplinary iterative development process by recognized experts in graduate science education, gaming, academic integrity, and educational digital media production”
- Open source – allow each institution to customize to its own code of conduct, policies, and branding but maintain common focus on what constitutes responsible conduct of research

# Why Gaming?

- Universal among college-aged students
- Teenagers: game playing is universal and can facilitate social discussions and “can incorporate many aspects of civic and political life” (Lenhart et al., 2008)
- Similar real life scenarios were used by Lloyd and van de Poel (2008) to create a collaborative design game with engineering students “to give students ‘practical’ experience of ethical decision-making in the process of design



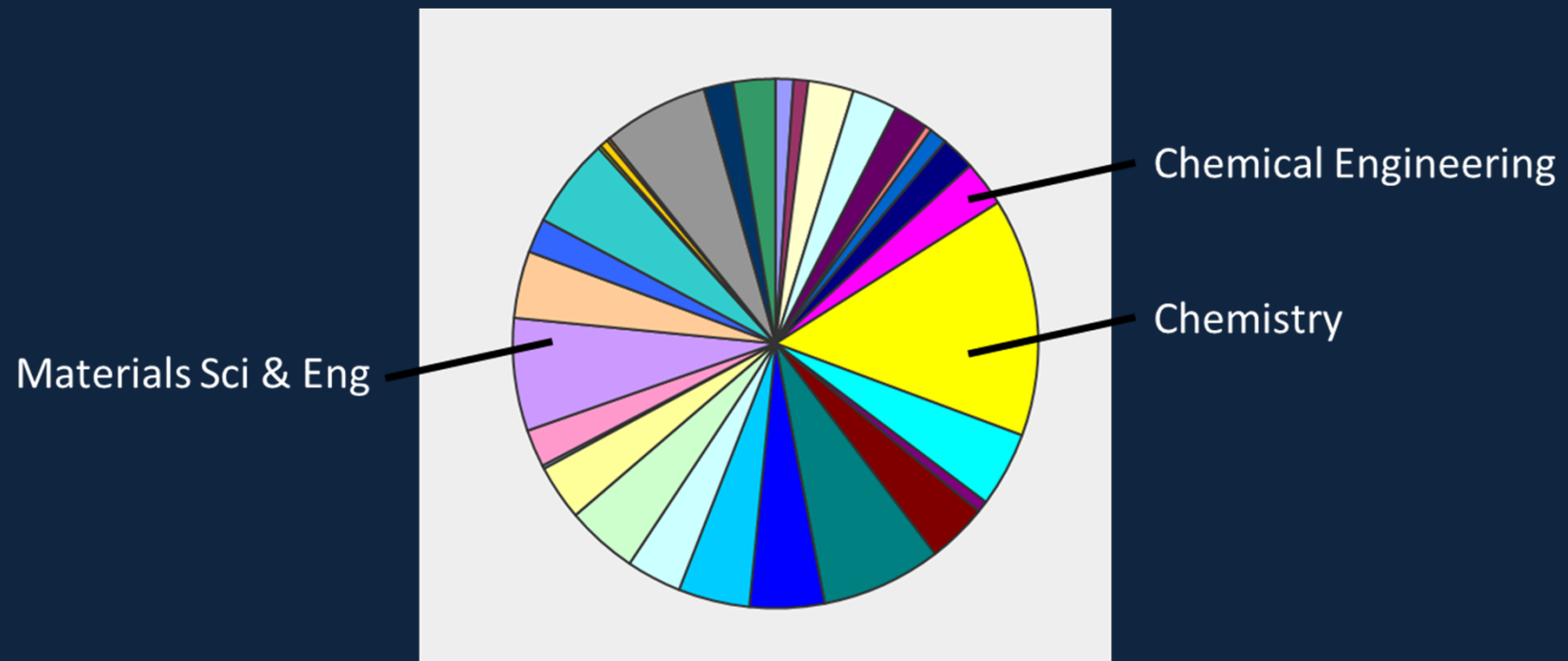
# Project Phases



Credit: Margeaux Johnson, GAP Co-PI

# Environmental Scan (Phase 1)

- Focus Groups
- STEM Grad Student Survey – “Perceptions of Plagiarism”
  - Students perceptions of the amount and severity of plagiarism on campus, workload appropriateness, and faculty practices



# STEM Grad Student Survey “Perceptions of Plagiarism”

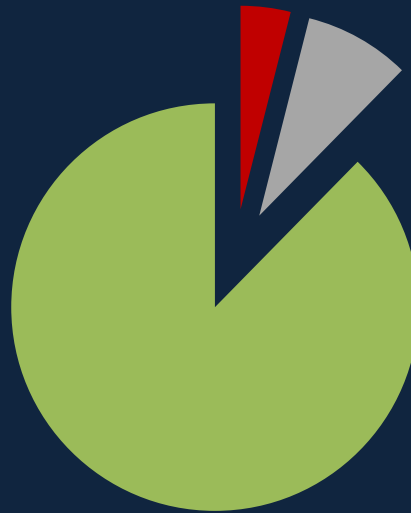
## The Good News...

Agree Not Sure Disagree

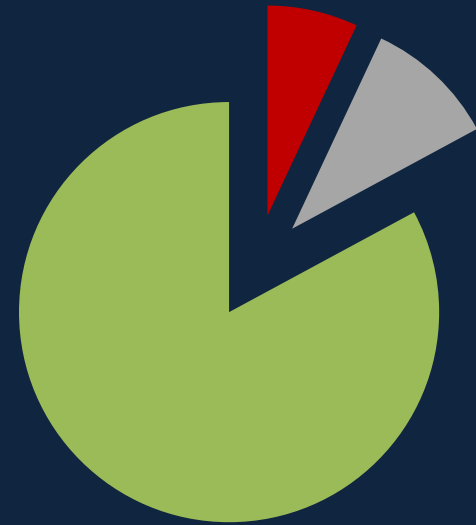
Amount of work is reasonable  
for year & program



Assignment difficulty  
appropriate for year & program



Assessments effective at  
helping learn concepts

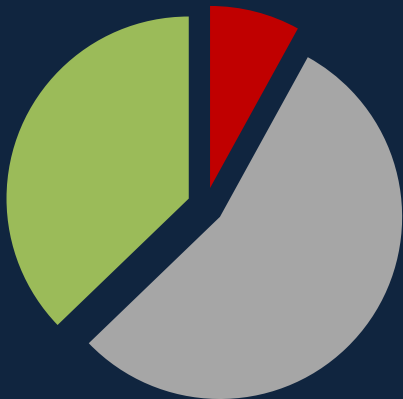


# STEM Grad Student Survey “Perceptions of Plagiarism”

## The **Bad** News...

Agree Not Sure Disagree

Plagiarism is a  
serious problem



Faculty change  
assignments regularly



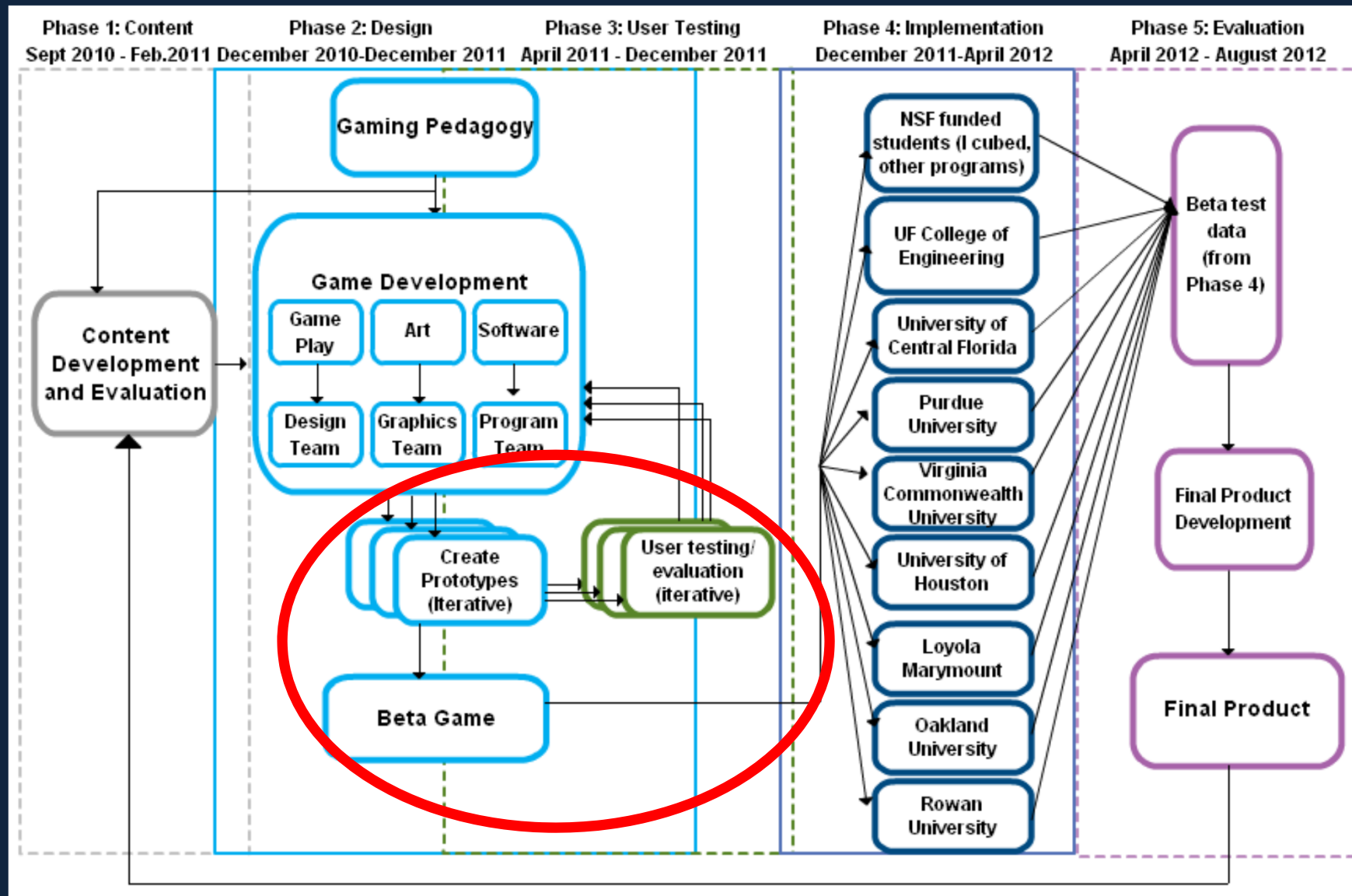
Vigilance in discovering  
& reporting incidents



Investigation is fair  
& impartial



# Project Phases



Credit: Margeaux Johnson, GAP Co-PI

# Inclusion of Broader Ethics

Table 6  
*Cheating on Other Assignments\**

	<u>Undergraduates</u>	<u>Grad Students</u>	<u>Faculty</u>
Fabricating or falsifying lab data	19%	7%	21%
Copying someone else's program in a course requiring computer work	11%	7%	39%
Fabricating or falsifying research data	8%	4%	21%

“And if undergraduates majoring in science are isolated, 31% report falsifying laboratory data.”

McCabe, D. L. *Int. J. Educational Integrity* **2005**, 1.

- America COMPETES Act – UF Certification for RCR
- Faculty have different needs from grad students – how do they **do** research?

# Promoting Responsible Conduct in Research

- Sponsor an ethics workshop on campus – Fall 2011
- Develop a workshop and research guide on ethics and responsible conduct in research

The screenshot shows a web page titled "Responsible Conduct of STEM Research" from UF Libraries. The page includes a breadcrumb trail: "UF Libraries » Guides @ UF » Science Library Guides » Responsible Conduct of STEM Research". It also features a "Admin Sign In" link. The main heading is "Responsible Conduct of STEM Research" with a subtitle "Tips and sources to help you conduct sci-tech research in an ethical and responsible manner." Below this, it states "Last update: Aug 12th, 2011" and provides a URL: "http://guides.uflib.ufl.edu/stemrcr". There are links for "Print Guide", "RSS Updates", "Email Alerts", and a "SHARE" button with social media icons. A navigation bar contains tabs for "Responsible Conduct of Research", "Background research & lit review", "Data management", "Writing it up", "Ethics", and "FAQ". The "Responsible Conduct of Research" tab is selected. Below the navigation bar, there is a search bar and a "This Guide" dropdown. The main content area is divided into three columns. The left column is titled "UF Honor Code" and contains text about the University's honor code. The middle column is titled "Best Practices for Maintaining Research Integrity" and lists several guidelines, including "Follow general practices of Responsible Conduct of Research (RCR)", "Search your discipline's literature early and often", "Develop professional relationships with mentors/advisors", "Follow the practices and cultures of collaborative research", "Establish roles and authorship at the beginning of a project", "Maintain accuracy in measuring, recording, interpreting, and reporting data", "Follow Guidelines for Best Practices in Image Processing", "Respect the rights and treatment protocols of research subjects, human or animal", and "Avoid the research misconduct deeds: falsification, fabrication, plagiarism". The right column is titled "Avoiding Misconduct" and features a video titled "THE LAB: Avoiding Research Misconduct" from the Office of Research Integrity (ORI). Below the video, there is a link to "Watch the video". At the bottom of the right column, there is a section titled "Reporting Research Misconduct at UF" with a link to "I have observed some research misconduct at UF. Where do I report it?".

UF Libraries » Guides @ UF » Science Library Guides » Responsible Conduct of STEM Research Admin Sign In

## Responsible Conduct of STEM Research

Tips and sources to help you conduct sci-tech research in an ethical and responsible manner.

Last update: Aug 12th, 2011 | URL: <http://guides.uflib.ufl.edu/stemrcr> | [Print Guide](#) | [RSS Updates](#) | [Email Alerts](#) | [SHARE](#) [f](#) [t](#) [e](#) ...

[Responsible Conduct of Research](#) [Background research & lit review](#) [Data management](#) [Writing it up](#) [Ethics](#) [FAQ](#)

**Responsible Conduct of Research** [Comments \(0\)](#) [Print Page](#) Search:  This Guide

### UF Honor Code

Preamble: In adopting this Honor Code, the students of the University of Florida recognize that **academic honesty and integrity are fundamental values of the University community.**

Students who enroll at the University commit to holding themselves and their peers to the high standard of honor required by the Honor Code. Any individual who becomes aware of a violation of the Honor Code is bound by honor to take corrective action.

Student and faculty support are crucial to the success of the Honor Code.

### Best Practices for Maintaining Research Integrity

Follow general practices of Responsible Conduct of Research (RCR) [[in html](#) or [pdf](#) or [video](#)].

[Search](#) your discipline's literature early and often. Know how your work fits with other research in your area, and learn the key players.

Develop professional relationships with [mentors/advisors](#). Communicate your expectations and ask questions. Respect the [differences in cultural backgrounds](#) among your colleagues.

Follow the practices and cultures of [collaborative research](#) in your discipline, department, and lab.

Establish roles and authorship at the beginning of a project, and create [partnering agreements](#). Follow responsible publication practices.

Maintain accuracy in measuring, recording, interpreting, and reporting [data](#). Negotiate data sharing and ownership [issues](#).

Follow [Guidelines for Best Practices in Image Processing](#).

Respect the rights and treatment protocols of [research subjects](#), [human](#) or [animal](#).

Avoid the [research misconduct](#) deeds: falsification, fabrication, plagiarism.

### Avoiding Misconduct



The Lab. An Interactive Video on Avoiding Misconduct from the Office of Research Integrity (ORI)

[Watch the video](#)

### Reporting Research Misconduct at UF

I have observed some research misconduct at UF. Where do I report it? [University of Florida](#)

<http://guides.uflib.ufl.edu/stemrcr>

# Take Home Message

- Plagiarism and research misconduct are widespread
- Librarians as ethics watchdogs
  - Raise profile on campus
  - Contribute to academic integrity, university policies
- Subject-specific knowledge may be useful to identify different types of misconduct across different fields
- Contribute to open-source community
- Started as a game – life of its own now (research guide, ethics symposium)



# Credits

- PI: Michelle Leonard
- Co-PIs: Margeaux Johnson, Amy Buhler, James Oliverio, Dr. Ben deVane
- Team: Denise Bennett, Dr. Rick Ferdig, Dr. Don McCabe, Melody Royster, Dr. Donna Wrublewski
- GAP Blog: <http://blogs.uflib.ufl.edu/gap>
- Responsible Conduct of STEM Research Guide: <http://guides.uflib.ufl.edu/stemrcr>